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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,212	12/02/2003	Edward J. Koeneman	58482-010101	5429

7590 12/31/2007  
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EXAMINER
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FOREMAN, JONATHAN M

ART UNIT	PAPER NUMBER
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3736

MAIL DATE	DELIVERY MODE
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12/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/727,212

Applicant(s)

KOENEMAN ET AL. CT

Examiner

Jonathan ML Foreman

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 69-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 69-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 69 – 81 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 69 and 81 state, “at least one EMG sensor **attached** to the at least one neuromuscular system...” and “at least one joint position sensor **attached** to the at least one joint...”. Applicant has claimed the non-statutory subject matter of a neuromuscular system and at least one joint.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 69 – 73 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,012,820 to Meyer.

In regard to claims 69 – 73, Meyer discloses a system for neuromuscular function reeducation and restoring physical function of at least one neuromuscular system associated with an at least one joint in a patient, the system comprising: a motion causing device (9) for assisting the one joint in movement, the motion causing device follows a protocol implemented by the controller; at least one force sensitive resistor sensor (Col. 4, lines 31 – 40) for measuring a parameter indicative of muscle resistance; at least one joint position sensor for measuring joint movement (Col. 6, lines

11 – 16); at least one neuromuscular electrical stimulating (NMES) system for providing neuromuscular stimulation to the at least one neuromuscular system (Col. 5, lines 1 – 9); an electronic memory system (41) that stores information related to the patient; at least one EMG sensor (Col. 5, lines 22 – 29) that detects self-actuation of the neuromuscular system; and a controller implementing a protocol. The stored information includes compliance and performance and can provide the information on command. The motion causing device follows a protocol implemented by the controller when self-actuation is not detected by the joint position sensor.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 74, 75 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,012,820 to Meyer in view of U.S. Patent No. 6,010,468 to Grove et al.

In regard to claims 74, 75 and 76, Meyer discloses a motion causing device (9), but fails to disclose the motion causing device being an air-muscle that shortens in length upon inflation to cause the joint to pivot and includes at least one port for supplying air. Nor does Meyer disclose a microprocessor for controlling a valve to supply air to the air-muscle. Grove et al. disclose a system for restoring physical function of a neuromuscular system and teach a motion causing device being an air-muscle (133) that shortens in length upon inflation to cause the joint to pivot and includes at least one port for supplying air. Grove et al. teach a microprocessor for controlling a valve for supplying air to the air-muscle (Col. 12, lines 47 – 60). It would have been obvious to one having

ordinary skill in the art at the time the invention was made to modify the motion causing device as disclosed by Meyer to include an air-muscle as taught by Grove et al. in order to provide the system with an easily controllably motion causing device.

6. Claims 77 - 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,012,820 to Meyer in view of U.S. Patent Application Publication No. 2002/0143277 to Wood et al.

In regards to claims 77 - 80, Meyer discloses obtaining measurements form an EMG sensor and a force sensor. However, Meyer fails to disclose displaying the measurements from the EMG sensor and the force sensor. Wood et al. disclose a system for restoring physical function of a neuromuscular system and teach displaying measurements from an EMG sensor and a force sensor [0055] for a patient to monitor the compliance and performance. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as disclosed by Meyer to include a display for displaying the measurements made by the EMG sensor and the force sensor as taught by Wood et al. in order to encourage patients to continue with their exercises [0010].

### ***Response to Arguments***

7. Applicant's arguments filed 10/12/07 have been fully considered but they are not persuasive. The motion causing device disclosed by Meyer follows a protocol implemented by the controller. The controller does not respond to self-actuation being detected by the joint position sensor. Therefore, the motion causing device follows a protocol implemented by the controller when self-actuation is not detected by the joint position sensor.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan ML Foreman whose telephone number is (571)272-4724. The examiner can normally be reached on Monday - Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571)272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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*M. H. Gendry*